

REMARKS

Applicants request that Examiner enter this supplemental amendment, in accordance with MPEP 714.03(a). This supplemental response is limited to the placement of the application in condition for allowance under 37 CFR 1.111(a)(2)(C). No new subject matter has been added.

The claim amendments made in this Supplemental Response are made over and above the amendments filed in the Response included with the Request for Continued Examination filed June 3, 2010.

Claims 1-3, 5-15, 17-28, 63-76, 85 and 86 were pending in this application. By virtue of this response, Applicants request amendment of claims 1, 6, 8-15, 21, 23-28, 63, 64, 68, 70-76, 85, and 86. Applicants further request entry of new claims 87-95. Claims 5, 7, 20, 22, 67, and 69 are cancelled. After entry of these amendments, claims 1-3, 6, 8-15, 17-19, 21, 23-28, 63-66, 68, 70-76, and 85-95 are presently pending.

Support for the amendments to the claims may be found throughout the specification including paragraphs [0022] and [0038] of the application as published, and originally filed claims 5 and 7. Support for new claims 87-95 may be found throughout the specification including paragraph [0039].

Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter was added by this amendment.

I. Examiner Interview

Applicants thank Examiner Epps-Smith for the courtesy of the telephonic interview of March 30, 2011 (hereinafter the “interview”). Examiner Epps-Smith, and Applicants’ representatives, Brian Ho and Roberto Rodriguez, were present for the interview. The rejection of the claims under 35 U.S.C. § 102(b) were discussed. Proposed claim amendments related to specifying the electromagnetic energy as pulsed radiofrequency radiation were also discussed.

While no agreement was reached, Examiner Epps-Smith stated that she would review any amendments filed in a Supplemental Response.

II. Maintained Claim Rejection Under 35 USC §102

Claims 8, 23, and 70 stand rejected under 35 U.S.C. 102(b) as being anticipated by Gordon et al (U.S. Patent No. 4,758,429, hereinafter “Gordon”). In particular, the Examiner notes that since the methods of Gordon teach the delivery of an effective amount of electromagnetic energy to joint cells, the methods of Gordon inherently function for accelerating the cell cycle of a cell.

In response, claims 8, 23, and 70 have been amended to recite “wherein said cell is selected from the group consisting of fibroblast, neuronal cell, epithelial cell, macrophage, neutrophil, endothelial cell, skeletal muscle cell, smooth muscle cell, chondrocyte, and bronchial cell.” As discussed with the Examiner, Applicants have amended the claims to remove any cells that would not be expected to be found in gastrointestinal tissue or lung tissue. Moreover, given that claims 8, 23, and 70 are dependent on independent claims 1, 15, and 64 and include all limitations thereof, the amended claims are directed to a method of delivering pulsed radiofrequency radiation to a cell that is part of a gastrointestinal tissue or lung tissue, wherein the cell being treated does not sustain substantial DNA damage, and wherein the cell is selected from the above list. For example, an epithelial cell as listed in claim 8 is limited to an epithelial cell found in gastrointestinal or lung tissue, and does not include an epithelial cell found in other tissues of the body.

In contrast, Gordon is directed to methods of treating arthritis and joint diseases by delivering electromagnetic energy to cells of the joint. However, Gordon does not teach or suggest treating cells of gastrointestinal tissue or lung tissue with pulsed radiofrequency radiation. Further, the purpose of Gordon is to deliver an amount of energy to destroy inflammatory cells within the arthritic or diseased joint (see Col. 2, lines 20-35). Applicants note that delivering electromagnetic energy to destroy inflammatory cells would also presumably cause DNA damage to the cells.

However, this is directly counter to the currently claimed methods, which deliver pulsed radiofrequency to a cell without causing DNA damage.

For at least for the reasons set forth above, Applicants respectfully submit that dependent claims 8, 23, and 70 are not anticipated by Gordon. Applicants thus respectfully request that the rejection be withdrawn.

III. Claim Rejections Under 35 USC §112, Second Paragraph

Claim 9 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which application regards as the invention. In particular, the Examiner notes that claim 9 recites “further comprising delivering to said cell an effective amount of electromagnetic energy,” and that this additional step is unclear since it is not apparent that two separate doses of electromagnetic energy are to be delivered to the cells.

Applicants respectfully submit that the amendment to claim 9 filed in the Response included with the Request for Continued Examination filed June 3, 2010, and the current amendment to claim 9 clarify that it is the “said effective amount of pulsed radiofrequency radiation” that activates a cell cycle regulator. Applicants thus respectfully request that this rejection be withdrawn.

IV. Claim Rejections Under 35 USC §102

Claims 1-3, 5-15, 17-28, 63-76 and 85-86 are rejected under 35 U.S.C. 102(a or e) as being anticipated by Ganz et al. (US 6491618; see entire disclosure of reference, hereinafter “Ganz”). In particular, the Examiner notes that since Ganz discloses the method step of the claimed invention, which comprises delivering electromagnetic radiation (including light, x-ray, radiofrequency radiation, infrared, microwave and ultraviolet radiation) into a body cavity of a patient, including the gastrointestinal tract and lungs, absent evidence to the contrary the ordinary skilled artisan would also expect that the prior art method would also produce the further function of

accelerating the cell cycle, activating a cell cycle regulator, activating a signal transduction protein, activating a transcription factor, a DNA synthesis protein, a receptor and inhibiting an angiotensin receptor of the cells exposed to the radiant energy.

To the extent that the rejections apply to the amended claims, Applicants respectfully traverse the rejection and its supporting remarks.

Applicants have amended the claims to be directed to methods for accelerating the cell cycle of a cell, activating a cell cycle regulator, activating a signal transduction protein, activating a transcription factor, activating a DNA synthesis protein, activating a receptor, and inhibiting an angiotensin receptor, comprising delivering to a cell an effective amount of pulsed radiofrequency radiation, wherein said cell is part of a gastrointestinal tissue or lung tissue and wherein said pulsed radiofrequency radiation accelerates the cell cycle, activates the cell cycle regulator, activates the signal transduction protein, activates the transcription factor, activates the DNA synthesis protein, activates the receptor, or inhibits the angiotensin receptor, and wherein the cell being treated does not sustain substantial DNA damage.

Applicants note that Ganz does not disclose treating a cell with pulsed radiofrequency (RF) radiation. Rather Ganz discloses delivering ionizing radiation to cause a sufficient amount of DNA damage to induce apoptosis (i.e., programmed cell death) of the pathogenic bacteria within the lining of a body cavity of a patient, such as the stomach (see Col. 4, lines 6-17), and only briefly discusses the use of RF energy (see Col. 13, lines 1-20). However, as with the other forms of radiation described in Ganz, the RF energy is used to cause sufficient DNA damage to kill the bacterial cells. However, this is directly counter to the currently claimed methods, which deliver pulsed radiofrequency to a cell without causing DNA damage.

For at least the reasons set forth above, Applicants respectfully submit that Ganz does not anticipate the currently pending claims. Applicants thus respectfully request that the rejection be withdrawn.

Claims also not obvious in view of Ganz

While the current claims are rejected as anticipated by Ganz, Applicants respectfully submit that the currently amended claims are also not obvious in view of Ganz.

As discussed above, Ganz does not teach using pulsed RF radiation to treat cells without causing DNA damage. Rather, Ganz teaches using ionizing radiation, such as RF energy, to cause sufficient DNA damage to kill pathogenic bacteria within the lining of the stomach of a patient. As such, one of skill would not have a rationale for modifying the methods of Ganz to arrive at the claimed methods by treating bacterial cells in the lining of the stomach by delivering to the cells pulsed RF energy without causing DNA damage to the cells. Such a modified method would be unsatisfactory for the intended purpose of Ganz, as the pulsed RF energy would no longer cause sufficient DNA damage to kill the bacterial cells. See MPEP 2143.01(V).

Accordingly, the currently pending claims are also not obvious in view of Ganz.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing **Docket No. 425282000500**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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